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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,806	04/20/2005	Simon Sanders	BARK-1-24115	8915

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EXAMINER	
GRUN, ROBERT J	

ART UNIT	PAPER NUMBER
4111	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,806	SANDERS, SIMON	
	Examiner	Art Unit	
	ROBERT J. GRUN	4111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28-45 and 48-52* is/are rejected.

7)☒ Claim(s) *46 and 47* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/10/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. After further consideration the Examiner has withdrawn the restriction requirement previously communicated.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 28-30 and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (US Patent No. 5,384,086).

- Regarding Claim 28: Smith teaches a pipe lining apparatus consisting of a known two layer pipe liner known as Institube™. Institube™ is manufactured to consist of a felt layer (pipe liner) and a second impermeable membrane layer (inner tube). Said “impermeable membrane may serve as a surface to the finished tube, or it may alternately be removed”. During insertion into the pipe, the felt layer of the liner is impregnated with resin as it is everted into the pipe. This eversion puts the felt layer toward the pipe and the impermeable membrane second layer on the interior of the pipe liner (col. 1 lines 20-33). In other words, as illustrated in figure 1, the outside becomes the inside and therefore the inner tube (removable impermeable layer) is spread out along the inner surface of the pipe liner prior to insertion into pipeline 10. Smith also teaches a rolling type pig

made of fabric reinforced rubber or plastics material (col. 3 lines 31-32). Said rolling-type pig is the same as described in the description in claim 28, basically having a toroidal shape with a closed center when inflated (fig. 6c and col. 5 line 15). While Smith does not use the pig (1) (figure 1) to expand the liner, Smith's pig is inflated to seal off the pipe and therefore would be capable of pressing the liner against the wall of the pipe. Therefore Smith teaches the apparatus recited in this claim.

- Regarding Claim 29 and 30: Smith teaches the invention as described above in the rejection of claim 28. Smith further teaches the filling of the pipeline with water (liquid) or air (gaseous matter) to propel the pig (col. 2 lines 59-64).
- Note that MPEP 2114 states: "Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function.". In re Danley, 120 USPQ 528, 531 (CCPA 1959) and "Apparatus claims cover what the device is, not what a device does" (emphasis in original) Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). It goes on to state that "A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all structural limitations of the claim." Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) .

- Regarding Claim 33: Smith teaches the invention as described above in the rejection of claims 28-32. The pig in Smith has a one way inflation valve as described in the rejection of claims 31 and 32 (col. 2 lines 48-50).
- Regarding Claim 34 and 35: Smith teaches the invention as described above in the rejection of claims 28-30 and 33. The pig in Smith is formed from a “length of flexible tubing of which the ends are turned backwards upon the tube and are connected together so that the tube becomes endless and can roll upon itself" (col. 2 lines 44-47). Smith also teaches the "rolling pig may be of a fabric reinforced rubber or plastics material (i.e. a flexible elastic membrane) (col. 3 lines 31-32).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Patent No. 5,384,086) as applied to claim 28.

- Regarding Claims 31 and 32: Smith teaches the invention as described above in the rejection of claim 28. While Smith does not disclose the pressure at which the pig is filled, he does disclose "[t]he pig is in fact inflated by suitable inflation means through a **one way valve** and when it is inflated to the **required pressure** it will form a seal on the inner surface of the passageway." (col. 2 lines 48-51).

Absent showing of unexpected results, it would have been obvious in the art at the time the invention was made to inflate the pig in Smith to a pressure of between 0.3 x 10^5 Pa and 10 x 10^5 Pa or approximately 1.5 x 10^5 Pa for sealing the pipe, because one in the art would have determined, by routine experimentation, to obtain said "required pressure" to effectively seal the pipe.

6. Claims 36-45 and 48-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Patent No. 5,384,086) in view of Ledoux (US Patent No. 6,299,803 B1).

- Regarding Claim 36 and 37: Smith teaches a pipe lining apparatus consisting of a known two layer pipe liner known as Institube™. Institube™ is manufactured to consist of a felt layer and a second impermeable membrane layer (inner tube). Said “impermeable membrane may serve as a surface to the finished tube, or it may alternately be removed”. During insertion into the pipe, the felt layer of the liner is impregnated with resin as it is everted into the pipe. This eversion puts the felt layer toward the pipe and the impermeable membrane second layer on the interior of the pipe (col. 1 lines 20-33). Smith also teaches a rolling type pig made of fabric reinforced rubber or plastics material (col. 3 lines 31-32). Said rolling-type pig is the same as described in the description in claim 28, basically having a toroidal shape with a closed center when inflated (fig. 6c and col. 5 line 15). While Smith does not use the pig(1) (figure 1) to expand the liner, Ledoux teaches the use of a "soft pig...to re-round the liner" pressing it against the wall of the pipe (col. 6 lines 63-64 and Fig. 6). One of ordinary skill in the art at the time

of invention would have found it obvious, given the teachings of Ledoux, to use a pipeline pig to smooth out the liner as illustrated in figure 6. One of ordinary skill in the art at the time of invention would have also found it obvious to use Smith's rolling pig in place of the pig of Ledoux to prevent the "process being impeded due to the pigs sticking in the passageway" (Smith col. 3 lines 29-31) and would have found it equally obvious to use the same type of pig that is already used in method of Smith to thereby obviate the need to purchase another type of pig so as to reduce the pipe lining costs.

- Regarding Claim 38: Smith and Ledoux teach the invention as described above in the rejection of claim 28-32. The pig in Smith is propelled by the force of resin (fluid) against its surface (col. 2 lines 64-67). One of ordinary skill in the art at the time of invention would have found the combination of Smith and Ledoux obvious as described in the rejection of claim 36 and 37.
- Regarding Claims 39 and 40: Smith and Ledoux teach the invention as described above in the rejection of claim 36. One of ordinary skill in the art at the time of invention would have found the combination of Smith and Ledoux obvious as described in the rejection of claim 36 and 37. While Smith does not disclose the pressure at which the pig is filled, Smith discloses "[t]he pig is in fact inflated by suitable inflation means through a **one way valve** and when it is inflated to the **required pressure** it will form a seal on the inner surface of the passageway." (col. 2 lines 48-51). Said pig prevents the resin from leaving the everting face of the liner. One of ordinary skill in the art at the time of invention would have found

it obvious to fill the pig to a pressure such that the passageway was sealed with the pig, in order to allow the propulsion of pig by fluid pressure as described in the Smith patent, so as to also prevent the leaking of resin around the pig.

- Regarding Claim 41: Smith and Ledoux teach the invention as described above in the rejection of claim 36. Smith teaches the use of a "launching tee piece located at the end of the pipeline or passageway and into which the body of the fluent composition can be loaded" (col. 1 line 66-col. 2 line 1), as well as the launching of the pig (col. 2 line 42). One of ordinary skill in the art at the time of invention would have found the combination of Smith and Ledoux obvious as described in the rejection of claim 36 and 37.
- Regarding Claims 42, 43, 48, and 49: Smith and Ledoux teach the invention as described above in the rejection of claim 36. Smith teaches the retrieval of the pig at the downstream end of the pipeline by "suitable arrangements" (i.e. a receiving chamber) as well as the removal of excess resin (i.e. pressure relief outlet) (col. 3 lines 25-26). One of ordinary skill in the art at the time of invention would have found the combination of Smith and Ledoux obvious as described in the rejection of claim 36 and 37.
- Regarding Claims 44 and 45: Smith and Ledoux teach the invention as described above in the rejection of claim 36. Smith teaches the passing of a tape or rope (i.e. elongate member) through the center of the pig, "as a means for holding the pig back from traveling freely along the passageway" (col. 2 lines 51-55). One of

ordinary skill in the art at the time of invention would have found the combination of Smith and Ledoux obvious as described in the rejection of claim 36 and 37.

- Regarding Claims 50-52: Smith and Ledoux teach the invention as described above in the rejection of claim 36. One of ordinary skill in the art at the time of invention would have found the combination of Smith and Ledoux obvious as described in the rejection of claim 36 and 37. Neither Smith nor Ledoux discloses maintaining pressure in the pipeline for an extended period of time. However, one of ordinary skill in the art at the time of invention would have found it obvious to maintain pressure in the pipe lining long enough for the resin to cure, because otherwise the pipeline liner would separate from the pipe requiring the process to be repeated. Additionally, without the showing of unexpected results, maintaining a pressure of between 0.2×10^5 Pa and 2×10^5 Pa or approximately 0.5×10^5 Pa in the pipeline would be obvious to one of ordinary skill in the art at the time of invention as the minimum pressures necessary to maintain the pipe liner's contact with the interior of the pipeline.

Allowable Subject Matter

7. Claims 46 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: None of the references cited alone or in combination teach or suggest a conduit through the middle of the pig which allows the supplying of pressurizing fluid to a space

adjacent a forward end of the pipeline pig nor locating said conduit between the pipe liner and the outer surface of said pig.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT J. GRUN whose telephone number is (571)270-5521. The examiner can normally be reached on Monday-Thursday 07:30-17:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sam C. Yao can be reached on (571)272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJG

/Sam Chuan C. Yao/

Supervisory Patent Examiner, Art Unit 4111